Appendix D

Cost Estimates

OU 1-10 Group 3, RD/RA Work Plan Cost Estimate

Cost Elements		Estimated Cost
Remedial Design		$ 364,764
Remedial Action Work Plan		$ 401,800 Note: This includes the PM-2A Closure Plan
Remedial Design/Remedial Action Work Plan	**Total**	**$ 766,564**
Remedial Action Field Work		
Project/Construction Management	$ 619,449	
PM-2A Tanks Remediation	$ 1,541,479	
WRRTF Burn Pits 2 and 4 Remediation	$ 41,302	
TSF-03 Burn Pits Remediation	$88,000	
Remedial Action Field Work Total		**$ 2,290,230**
Pre-final Inspection/RA Report		$ 95,362
Project Management/Administrative Support		$989,384
Contingency		$215,688
Remedial Action Cost	**Total**	**$ 4,357,228**
Out Year Costs for Institutional Controls		**$25,060**

Appendix E

Safety Category Evaluation

414.02
04/18/2001
Rev. 04

SAFETY CATEGORY DESIGNATION AND RECORD

Safety Category Evaluation Performed By: Miyasaki, Dean/Wendt, Kraig Date: June 18, 2003

Facility/Structure/System/Component: PM-2A Tank Remediation Hazard Category: 3

IDENTIFICATION OF ITEM	SAFETY CATEGORY DESIGNATION	TECHNICAL JUSTIFICATION
All equipment and components purchased and/or fabricated for performing the TSF-26 PM-2A remedial actions.	Preliminary determination of Consumer Grade (CG)	TAN SAR INEL-94/0163 and EDF-3260 addresses the hazardous inventory for the PM-2A remedial operations at TAN. No "safety significant" structures, systems, and components are anticipated for the PM-2A tanks and associated piping. Therefore the equipment and components for the remedial actions of the PM-2A tanks is consumer grade.

Note: Identify and record safety category in accordance with MCP-540, and obtain appropriate approvals. Completed and approved form becomes a part of the safety basis documentation.

A. G. Ramos Safety Analysis Lead/Supervisor Concurrence Printed/Typed Name	per attached e-mail K.M. Zalmanek for A.Ramos Safety Analysis Lead/Supervisor Concurrence Signature	6-18-03 Date
L. T. Evens/J. E. Bruce Facility/Program/Project Approval Printed/Typed Name	Facility/Program/Project Approval Signature K.M. Zalmanek for L Evens per attached e-mail	6/16/03 Date 6-18-03

Appendix F

Technical and Functional Requirements, TFR-234

Document ID:TFR-234
Revision ID:1
Effective Date:7/23/03

Technical and Functional Requirements

PROJECT NO. 23095

Remediation of PM-2A Tanks, TSF-26, Operable Unit 1-10

Prepared for:
U.S. Department of Energy
Idaho Operations Office
Idaho Falls, Idaho

Idaho National Engineering
and Environmental Laboratory

Form 412.14
04/03/2003
Rev. 04

CONTENTS

This page is intentionally left blank.

1. INTRODUCTION

This technical and functional requirement (TFR) document was prepared in accordance with Idaho National Engineering and Environmental Laboratory (INEEL) Management Control Procedure (MCP) -9185, "Technical and Functional Requirements." It contains the requirements applicable to remediation of the PM-2A tanks. The tank contents will be disposed of at the INEEL CERCLA Disposal Facility (ICDF). This TFR is in support of the Operable Unit (OU) 1-10 remedial action activity and INEEL Engineering Change Form (ECF) -6959.

1.1 System Identification

The system is the temporary installation required for the safe remediation of the PM-2A tank contents and preparation for content waste disposal at the ICDF. The Test Area North (TAN) remedial site is known as Technical Support Facility (TSF) -26 at OU 1-10. The remediation is being conducted in accordance with the *Final Record of Decision for Test Area North, Operable Unit 1-10* (DOE-ID 1999) referred to as the ROD. Remediation includes any characterization or sampling process; tank, tank component or tank content removal; tank cleaning and disposal; and associated excavation/backfilling. The 50,000-gal PM-2A tanks, also known as V-13 (TK-710 or east tank) and V-14 (TK-709 or west tank), are underground storage tanks. Each carbon steel tank is 55 ft long and 12.5 ft in diameter, lying horizontally in a concrete V-trough with the tank top approximately 15 ft underground.

1.2 Limitations and Regulatory Commitments of the Technical and Functional Requirement

This TFR is limited to development of the tools, equipment, and methodologies necessary for removing the PM-2A tank contents and preparing the contents for disposal at the ICDF. Temporary Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) storage (if required) of the waste is assumed to be established by Waste Generator Services.

This TFR defines the INEEL requirements for fabrication and use of equipment to be subsequently deployed to satisfy regulatory commitments, as stipulated in the applicable or relevant and appropriate requirements (ARARs) and ROD (DOE-ID 1999).

1.3 Ownership of the Technical and Functional Requirement

The site area engineering manager for the TAN Closure Project is responsible for the technical contents of this TFR and shall review/approve any changes to it. The OU 1-10 remediation project engineer is responsible for ensuring that the requirements of this TFR are appropriately implemented into the system design.

1.4 Definitions/Acronyms

Verification—The act of reviewing, inspecting, testing, checking, auditing, or otherwise determining and documenting whether items, processes, services, or documents conform to specified requirements. See MCP-9217, "Design Verification."

ARAR	applicable or relevant and appropriate requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
DOE-ID	U.S. Department of Energy Idaho Operations Office
DOT	U.S. Department of Transportation
ECF	Engineering Change Form
EDF	Engineering Design File
EPA	U.S. Environmental Protection Agency
FRG	final remediation goal
HEPA	high-efficiency particulate air
ICDF	INEEL CERCLA Disposal Facility
INEEL	Idaho National Engineering and Environmental Laboratory
LDR	land disposal restriction
MCP	management control procedure
NFPA	National Fire Protection Association
OU	operable unit
PDD	program description document
PLN	plan
PRD	program requirements document
ROD	Record of Decision

STD	standard
TAN	Test Area North
TFR	technical and functional requirement
TSD	transportation safety document
TSF	Technical Support Facility
WGS	Waste Generator Services

2. OVERVIEW

2.1 System Functions

The overall function of this system is to remediate the PM-2A tanks at TAN TSF-26. From the ROD (DOE-ID 1999), the major components of the selected remedy for the PM-2A tanks include:

- Sampling the surface soil for additional contaminants identified in the PM-2A tanks to support a land disposal restriction (LDR) evaluation, and hazard waste determination
- Excavating contaminated soil
- Disposing of the contaminated soil at an acceptable soil repository
- Removing tank contents using commercial vacuum-excavation technology
- Verifying that the waste form does not require treatment before disposal
- Disposing of the tank contents and investigation-derived waste at the ICDF (or other approved facility, if necessary)
- Cleaning, sizing (cutting), and removing the empty tanks for disposal at the ICDF (this is not consistent with the ROD, but will be addressed as a insignificant change to the ROD via the Remedial Design/Remedial Action Work Plan)
- Performing postremediation sampling at the bottom of the excavation to verify that final remediation goals (FRGs) are met, plus analyze for additional contaminants in the PM-2A tank content waste to perform a risk analysis in support of an institutional control determination at this site
- Filling the excavated area with clean soil, contouring, and grading to surrounding soil

- Implementing institutional controls consisting of signs, access control, and land use restrictions established and maintained depending on the results of the sampling or characterization/profiling activities (as necessary).

2.2 System Classification

This remedial activity has been categorized as consumer grade in accordance with the requirements of MCP-540, "Documenting the Safety Category of Structures, Systems, and Components." The safety basis for performing PM-2A tank remedial activities is Engineering Design File (EDF) -3260, "Hazard Assessment Calculation for Hazard Classification for PM-2A Tanks (V-13 and V-14) (Draft),"[a] and EDF -3477, "Criticality Concerns Associated with the TAN V-Tanks."

2.3 Operational Overview

The PM-2A tanks contain sludge and diatomaceous earth, which might be water containing or pasty. The remediation plan calls for excavating soil to expose at least the top half of the tanks, cutting off the tank tops, vacuum removal coupled with sizing of the tank contents, cleaning and subsequent sizing of the tanks followed by waste transfer to the ICDF. The empty tanks (top and bottom portions) will be cleaned, sized, and disposed of at the ICDF. Containerized waste will be transported to the ICDF for disposal.

2.4 Assumptions

The assumptions are as follows:

- The PM-2A tank contents are F001-listed CERCLA mixed-low-level remediation waste, which meets LDRs and will not require treatment. The same reasoning applies to the empty tanks; therefore, the tanks require no decontamination.

- Pipes to the tank under roadways will be evaluated for clean closure and will not be removed. If waste is present inside the pipes, then the pipes and associated waste will be removed and disposed of at the ICDF.

- The piping associated with the PM-2A tanks does not contain any liquid.

- The PM-2A tank content characterization sampling will be used to determine physical characteristics of the tank contents for mitigating uptake issues in the tank and for determining desired hazardous constituent concentrations.

---

a. EDF-2360, 2003, "Hazard Assessment Calculation for Hazard Classification for PM-2A Tanks (V-13 and V-14) (Draft)," Idaho National Engineering and Environmental Laboratory, July 2003.

- Tank external surfaces and cradle are not contaminated above the FRG of 23.3 pCi/g Cs-137; therefore, they require no remediation (sampling will be necessary to validate this assumption). Any soil contaminated above the FRG shall be removed and shall be disposed of at the ICDF.

- Contingency plans and emergency equipment will be identified, tested, and maintained, as described in the *Health and Safety Plan for the Group 3 Remedial Design/Remedial Action Sampling, Excavation, Backfilling, Packaging, and Shipment of Soil at Waste Area Group 1, Operable Unit 1-10* (INEEL 2003).

- All onsite waste will be processed, packaged, and transported through Waste Generator Services (WGS), in accordance with waste acceptance criteria for the appropriate disposal facility. Industrial waste will be transported to the INEEL landfill, which is located at Central Facilities Area, for disposal.

- Work activities and site access restrictions will be controlled by the INEEL work control process and will be performed in accordance with the "Detailed Work Execution Plan for the Waste Area Group 1, Test Area North, Operable Unit 1-10, Group 3 Sites Remedial Action (90%) (Draft)."[b]

- All excavation areas will be backfilled to meet the surrounding topography, graded for drainage, compacted, and reseeded using native grasses.

- No routine equipment maintenance will be required.

- The radiation fields generated by the tank contents will be low enough to allow personnel access in the tank vicinity, but high enough to limit access within the tanks. Airborne contamination is expected to be a concern due to the dry, particulate nature of the waste.

3. REQUIREMENTS AND BASIS

3.1 Functional and Performance Requirements

This section contains the requirements related to PM-2A tank remediation. Requirements were not identified for nuclear criticality safety, computer hardware/software, fire protection, testability, technical safety requirement-required surveillance, security/special nuclear material protection,

---

b. INEEL, 2001, "Detailed Work Execution Plan for the Waste Area Group 1, Test Area North, Operable Unit 1-10, Group 2 Sites Remedial Action (90%) (Draft)," 01-M0515, Idaho National Engineering and Environmental Laboratory, July 2001.

reliability/availability/preferred failure modes, chemical/process, and special installation.

The following list summarizes the general design requirements applicable to the remediation activities.

A. Designs shall minimize waste handling.

B. Containerized CERCLA mixed-low-level remediation waste must be managed in accordance with ARARs.

C. The tank content removal and off-gas system must be capable of handling water-containing material (e.g., paste).

D. All material selections for equipment and components shall be made based on a 1-year life for the equipment used in this system and material selections for items to be disposed of at the ICDF shall comply with the waste acceptance criteria. (This operation is expected to take less than 1 month.)

E. Provide means to transport waste to the ICDF. Containers used for transporting waste to the ICDF must meet applicable U.S. Department of Transportation (DOT) requirements and Program Requirements Document (PRD) -310, "INEEL Transportation Safety Document (TSD)."

The DOT restricts types of shipping containers and their contents over public highways. Exception to the DOT requirements may be taken by developing a transport plan demonstrating equivalent safety and briefly closing the section of Highway 33 between TAN and the INEEL boundary to the public during shipments.

F. Waste volume should be minimized (Environmental Checklist TAN-99-008). The remediation system shall not generate additional waste except for the hardware, wipes, and protective equipment.

3.1.1 System

3.1.1.1 Means to remove and size the contents of the PM-2A tanks shall be provided. For compliance with the ROD (DOE-ID 1999), some type of vacuum removal system must be used.

3.1.1.2 The design must provide means for sampling the tank surfaces, soil, waste container contents, cradle, cradle sand while in the cradle, and tank contents.

3.1.1.3 The excavation system must expose approximately the top half of each tank without breaching the tank, thereby allowing access to the tank for content removal.

3.1.1.4 Air emissions resulting from any operation must not exceed limits set using appropriate air modeling techniques (Idaho Department of Environmental Quality approved). One such mitigation may be a spray mist system to provide control of fugitive dust emissions.

3.1.1.5 Waste containers for tank contents must have a cumulative capacity of 10,000 gal of solid waste.

3.1.1.6 The vacuum system and associated ventilation/off-gas system must be designed so as not to allow waste particles to fail the high-efficiency particulate air (HEPA)/filtration medium due to particle velocity.

3.1.1.7 Provide a method to cut/cap piping/lines and clean (prefer without liquid) the piping/lines, as necessary. The pipe/line cap shall be able to function for a period of 10 years without loss of integrity. ("Parent" line corrosion shall be considered for the first 5 years.) Material interfaces with the pipe/line and cap shall not enhance/accelerate corrosion mechanisms (materials shall be similar and compatible).

3.1.1.8 The vacuum system and ventilation system must be capable of sealing down to a vacuum of 7.5 psia and up to a pressure of 30 psia. The waste container must meet the sealing requirements of the applicable DOT regulations.

3.1.1.9 Means for removing the top 1/3 to 2/3 of each tank must be provided.

3.1.2 Subsystem and Major Components

The system consists of the following subsystems: excavation/backfill; tank cutting, cleaning, sizing, and removal; tank content vacuum removal and associated ventilation; and containerized waste management and transport.

3.1.3 Boundaries and Interfaces

This TFR covers the temporary units that comprise the system for PM-2A tank remediation. The major interfaces are:

- The TAN electrical system(s) supplying power from pole-mounted transformers near the tank excavation area
- A TAN facility for temporary, compliant CERCLA waste storage (as required)
- The tractor/trailer for transporting the waste containers to the ICDF.

3.1.4 Codes, Standards, and Regulations

The PM-2A tank remediation system shall comply with the codes and standards listed below:

- U.S. Department of Energy Idaho Operations Office (DOE-ID) *Architectural Engineering Standards* (DOE-ID 2002)
- Program Description Document (PDD) -1003, "Waste Generator Services Program"
- ARARs as defined in the ROD requirements (DOE-ID 1999) for closure, material handling, and storage
- MCP-9185, "Technical and Functional Requirements"
- *Waste Acceptance Criteria for the ICDF Landfill* (DOE-ID 2003)
- MCP-3475, "Temporary Storage of CERCLA-Generated Waste at the INEEL"
- *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (EPA 1997)
- *INEL Welding Manual* (MK-FIC 1990)
- DOE-STD-1090-01, "Hoisting and Rigging" (MCP-6501 – MCP-6505 series implement DOE-STD-1090-01)
- MCP-540, "Documenting the Safety Category of Structures, Systems, and Components"
- MCP-9110, "Suspect Counterfeit Item Identification and Control"
- MCP-2374, "Analyses and Calculations"
- MCP-9217, "Design Verification"

- MCP-2811, "Design Control"
- PRD-183, "INEEL Radiological Control Manual"
- Standard (STD) -7022, "Cleanliness Acceptance Levels for Nuclear or Non-Nuclear Service Components"
- STD-7006, "Marking Methods for Equipment, Components, and Materials"
- MCP-2987, "Chapter XVIII—Equipment and Piping Labeling"
- MCP-1631, "Supplemental Procedure to MCP-2987, Equipment and Piping Labeling"
- EDF-3260, "Hazard Assessment Calculation for Hazard Classification for PM-2A Tanks (V-13 and V-14) (Draft)" (see Footnote a)
- STD-101, "Integrated Work Control Process."

3.1.5 Operability

3.1.5.1 Tank contents (i.e., the sludge and diatomaceous earth phases) must be mixed during removal to prevent single-phase material (e.g., just diatomaceous earth) from being placed into disposal containers.

3.1.5.2 During tank top and content removal and after content removal prior to cutting the tank, an off-gas flow environment within the tank must be maintained for confining contamination.

3.1.5.3 The tank contents shall be sized and removed by a system external to the tank (i.e., the waste removal system must be able to remove tank contents without manned entry into the PM-2A tank). This system shall provide articulate motion to completely empty the tank.

3.1.5.4 The tank content removal system must have back flushing/unplugging capability, including a means to clear clogs or jams in the tank content removal system.

3.1.5.5 The waste removal system must be able to stop filling the waste container without plugging the system prior to filling the next container.

3.1.5.6 The vacuum and ventilation systems shall provide particulate containment and positive flow into the system within the tank confines during all tank operations.

3.1.5.7 The ventilation system must have blowback capability for knocking dust accumulation off the off-gas filters (e.g., baghouse).

3.1.5.8 The empty tanks must be cleaned and sized to meet transport requirements and ICDF waste acceptance criteria/LDRs.[c] Cleaning and sizing methods must minimize contamination spread.

3.1.5.9 The vacuum and ventilation systems must prevent pressurization of the waste container to the extent of creating a release hazard; one option is to have the vacuum pump downstream of the waste container.

3.1.5.10 Ventilation and containment systems must prevent radionuclide and toxic emissions to an onsite worker. Guidance for large containment structures is provided in MCP-198, "Large Area Containments."

3.2 Special Requirements

3.2.1 Radiation and Other Hazards

A HEPA-filtered positive ventilation system must be used with the waste retrieval and tank cleaning systems.

3.2.2 As Low as Reasonably Achievable

3.2.2.1 The vacuum and ventilation systems shall prevent the release of airborne contamination and demonstrate compliance by periodic monitoring.

3.2.2.2 Designs shall allow for ease of cleaning or appropriate decontamination.

3.2.2.3 As low as reasonably achievable may also include temporary shielding and/or spacing of temporary equipment or containers. Designs, process, and equipment shall be

---

c. DOE-ID, 2003, "Hazardous Waste Management Act/Resource Conservation and Recovery Act Closure Plan for the Test Area North/Technical Support Facility Intermediate-Level Radioactive Waste Management System Phase III: Intermediate-Level Waste Holding Tank Subsystem (PM-2A Tanks) (Draft)," DOE/ID-11076, U.S. Department of Energy Idaho Operations Office, July 2003.

provided to minimize radiation exposure and the spread of contamination to as low as reasonably achievable. The requirements of PRD-183, "INEEL Radiological Control Manual," must be followed.

3.2.3 Nuclear Criticality Safety

No requirements were identified for nuclear criticality safety. However, refer to EDF-3477, "Criticality Concerns Associated with the TAN V-Tanks."

3.2.4 Industrial Hazards

The Independent Hazard Evaluation process in STD-101 shall be used to address industrial hazards with common industrial hazard mitigation for heavy equipment operation.

3.2.5 Operating Environment and Natural Phenomena

There are no specific requirements that this system be able to continue to operate during a natural phenomena event (such as a tornado or earthquake) or to be able to operate, without repairs, after such an event. Therefore, the performance category for this system is Performance Category 0.

3.2.5.1 The system shall be suitable for outdoor operation at TAN. The expected outdoor operating environment is 20 to 120°F for the ambient temperature and 10 to 100% relative humidity.

3.2.6 Human Interface Requirements

3.2.6.1 All instruments, monitors, and controls shall be selected and positioned to enhance ease of use, be readily accessible, and be designed for the safety of the operator(s) and the environment.

3.2.6.2 All nonrented equipment for removing the tank contents shall be labeled/marked in compliance with the appropriate sections of STD-7006 and MCP-1631. Labeling components will be for temporary use.

Container labeling and tracking capability shall be provided for identifying and tracking containers for compliance with MCP-3475.

3.2.6.3 Appropriate methods shall be provided to allow the operators to observe tank cutting and waste removal operations being performed. For example, video cameras or other methods must be provided to allow the operators to observe tank waste removal operations.

3.2.6.4 The design of tools and equipment to be handled and lifted manually shall (1) include ergonomic considerations, (2) not exceed allowable lifting weights (maximum of 50 lb per individual), and (3) consider the length of time such tools and equipment will be used.

3.2.7 Specific Commitments

3.2.7.1 Capability shall be provided to temporarily store the containers of removed waste. The containers must be stored temporarily until transport to the ICDF (WGS will designate a CERCLA waste storage area).

3.2.7.2 Waste and waste containers to be disposed of at the ICDF must meet the ICDF's waste acceptance criteria, which are detailed in the *Waste Acceptance Criteria for the ICDF Landfill* (DOE-ID 2003).

3.2.7.3 The WGS must complete a hazardous waste determination for all CERCLA remediation waste generated during remediation activities.

3.2.7.4 All equipment and supplies used in the remediation system not deemed a solid waste must have an approved disposition path prior to use.

3.3 Engineering Design Requirements

3.3.1 Civil and Structural

3.3.1.1 All earthwork involved in this task shall be performed in accordance with PRD-2014 and PRD-22, "Excavations and Surface Penetrations," requirements.

3.3.1.2 Below-the-hook lifting devices shall comply with DOE-STD-1090-01, "Hoisting and Rigging," and applicable American Society of Mechanical Engineers/American National Standards Institute standards for hoisting and rigging equipment.

3.3.1.3 The container housing the waste, with or without a pallet, must be able to be secured to a trailer for transport to ICDF from TAN.

3.3.1.4 Structural components shall meet industry standards. Analysis shall be based on the rated weight capacity of the equipment.

3.3.1.5 The waste container must allow lifting from above or via pallet/forklift to which it is anchored. Design requirements of 49 *Code of Federal Regulations* (CFR) 173.410(b) must be followed with respect to lifting attachments.

3.3.2 Mechanical and Materials

3.3.2.1 Designs or processes shall provide a means to lift the tank and/or tank portions/sections.

3.3.2.2 All units in the system shall be modular and designed with quick-connect fittings so component exchanges, if necessary, will be simple and minimize exposure.

3.3.2.3 All welding shall comply with the *INEL Welding Manual* (MK-FIC 1990) and applicable welding consensus codes. All welding inspections shall comply with applicable welding consensus codes.

3.3.2.4 The tank cutting system shall not disturb the tank contents. If a cutting system involving high temperatures is used, it can only be deployed if the tank environment is not flammable or flammable material is protected. If a mechanical cutting system is used, it cannot involve free jets of abrasive material.

3.3.2.5 Any non-manual tools shall use energy sources compatible with the environment.

3.3.2.6 The waste container seal must have a design life of 2 years.

3.3.2.7 The tank content sizing and removal system cannot breach the tank.

3.3.3 Electrical Power and Instrumentation

3.3.3.1 All electrical equipment/devices shall be operable in compliance with National Fire Protection Association (NFPA) 70, "National Electrical Code," requirements.

3.3.3.2 The ventilation system (vacuum off-gas system) must have pressure instrumentation for determining the pressure drop expected across key equipment (e.g., bag house, HEPA filters, waste container) to determine changeout upon failure or plugging.

3.3.3.3 Power shall be drawn from pole-mounted transformers, which are located near the tank excavation area toward the northwest corner of the PM-2A fence.

3.3.3.4 Controls (engineered and/or administrative) shall be used to ensure that waste containers cannot be over-filled and ensure that the waste containers are filled to at least 95% of the container volume.

3.4 Testing and Maintenance Requirements

3.4.1 Non-Technical Safety Requirement Inspections and Testing

System performance testing (and training), using uncontaminated soil (or comparable material) before hot operation, shall ensure that the entire system functions properly with no leaks (leak requirements are stated in Section 3.1.1.8).

3.4.2 Maintenance

The subsystem shall provide capability to quickly remove and replace components. Use of long-lead spare parts shall be minimized (critical spare parts shall be on hand if replacement is needed).

3.5 Other Requirements

3.5.1 Quality Assurance

The system is considered consumer grade in accordance with MCP-540. The design, fabrication, and operation shall comply with Plan (PLN) -694, “Environmental Restoration Project Management Plan,” for Environmental Remediation’s quality assurance requirements. Compliance with MCP-9110,"Suspect Counterfeit Item Identification and Control," will ensure that suspect/counterfeit components are detected and controlled. Waste packaging design, fabrication, and procurement shall comply with PLN-120, “Hazardous Material Packaging and Transportation Quality Implementation Plan.”

3.5.2 Miscellaneous (Procurement)

3.5.2.1 The system, where practical for cost effectiveness, shall be designed based on commercially available products.

3.5.2.2 Goods procured for this system shall be procured in compliance with the INEEL's procurement quality requirements and other control procedures referenced therein, as appropriate for the safety category(s) assigned to the system and its individual components.

4. REFERENCES

49 CFR 173, 2003, "Shippers—General Requirements for Shipments and Packagings," *Code of Federal Regulations*, Office of the Federal Register, July 2003.

49 CFR 173.410, 2003, "General Design Requirements," *Code of Federal Regulations*, Office of the Federal Register, July 2003.

DOE-STD-1090-01, 2001, "Hoisting and Rigging," U.S. Department of Energy, April 2001.

DOE-ID, 1999, *Final Record of Decision for Test Area North, Operable Unit 1-10*, DOE/ID-10682, Revision 0, U.S. Department of Energy Idaho Operations Office; U.S. Environmental Protection Agency, Region 10; and Idaho Department of Health and Welfare, Division of Environmental Quality, October 1999.

DOE-ID, 2002, *Architectural Engineering Standards*, Revision 29, U.S. Department of Energy Idaho Operations Office, URL: http://www.inel.gov/publicdocuments/doe/archeng-standards/default.shtml, September 2002.

DOE-ID, 2003, *Waste Acceptance Criteria for ICDF Landfill*, DOE/ID-10865, Revision 3, U.S. Department of Energy Idaho Operations Office, July 2003.

EDF-3477, 2003, "Criticality Concerns Associated with the TAN V-Tanks," Revision 0, Idaho National Engineering and Environmental Laboratory, April 2003.

EPA, 1997, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods*, SW-846, Method 6020, U.S. Environmental Protection Agency.

INEEL, 2003, *Health and Safety Plan for the Group 3 Remedial Design/Remedial Action Sampling, Excavation, Backfilling, Packaging, and Shipment of Soil at Waste Area Group 1, Operable Unit 1-10*, INEEL/EXT-03-00046, Revision 1, Idaho National Engineering and Environmental Laboratory, May 2003.

MCP-198, 2000, "Large Area Containments," Revision 3, *Manual 15B–Radiation Protection Procedures*, Idaho National Engineering and Environmental Laboratory, July 2000.

MCP-540, 2001, "Documenting the Safety Category of Structures, Systems, and Components," Revision 13, *Manual 10A–Engineering and Research*, Idaho National Engineering and Environmental Laboratory, March 2001.

MCP-1631, 2000, "Supplemental Procedure to MCP-2987, Equipment and Piping Labeling," Revision 6, *TAN Operations Supplemental Procedures*, Idaho National Engineering and Environmental Laboratory, December 2000.

MCP-2374, 2003, "Analyses and Calculations," Revision 10, *Manual 10A–Engineering and Research*, Idaho National Engineering and Environmental Laboratory, July 2003.

MCP-2811, 2001, "Design Control," Revision 7, *Manual 10A–Engineering and Research*, Idaho National Engineering and Environmental Laboratory, June 2001.

MCP-2987, 1999, "Chapter XVIII—Equipment and Piping Labeling," Revision 1, *Manual 9–Operations*, Idaho National Engineering and Environmental Laboratory, August 1999.

MCP-3475, 2002, "Temporary Storage of CERCLA-Generated Waste at the INEEL," Revision 2, *Manual 8–Environmental Protection and Compliance*, Idaho National Engineering and Environmental Laboratory, April 2002.

MCP-6501, 2002, "Hoisting and Rigging Operations," Revision 1, *Manual 6–Maintenance*, Idaho National Engineering and Environmental Laboratory, October 2002.

MCP-6502, 2002, "Hoisting and Rigging Maintenance," Revision 1, *Manual 6–Maintenance*, Idaho National Engineering and Environmental Laboratory, October 2002.

MCP-6503, 2002, "Inspection and Testing of Hoisting and Rigging Equipment," Revision 1, *Manual 6–Maintenance*, Idaho National Engineering and Environmental Laboratory, October 2002.

MCP-6504, 2002, "Hoisting and Rigging Lift Determination and Lift Plan Preparation," Revision 1, *Manual 6–Maintenance*, Idaho National Engineering and Environmental Laboratory, October 2002.

MCP-6505, 2002, "Hoisting and Rigging Training," Revision 1, *Manual 6–Maintenance*, Idaho National Engineering and Environmental Laboratory, October 2002.

MCP-9110, 2002, "Suspect Counterfeit Item Identification and Control," Revision 4, *Manual 13B–Quality and Requirements Management Procedures*, Idaho National Engineering and Environmental Laboratory, July 2002.

MCP-9185, 2001, "Technical and Functional Requirements," Revision 1, *Manual 10A–Engineering and Research*, Idaho National Engineering and Environmental Laboratory, November 2001.

MCP-9217, 2003, "Design Verification," Revision 3, *Manual 10A–Engineering and Research*, Idaho National Engineering and Environmental Laboratory, January 2003.

MK-FIC, 1990, *INEL Welding Manual*, Document Id. 13775, Revision 0, Idaho National Engineering and Environmental Laboratory, January 1990.

NFPA 70, 2001, "National Electric Code," National Fire Protection Association, August 2, 2001.

PDD-1003, 2002, "Waste Generator Services Program," Revision 5, *Manual 17–Waste Management,* Idaho National Engineering and Environmental Laboratory, July 2002.

PLN-120, 2002, "Hazardous Material Packaging and Transportation Quality Implementation Plan," Revision 5, Idaho National Engineering and Environmental Laboratory, July 2002.

PLN-694, 2000, "Environmental Restoration Project Management Plan," Revision 0, *Manual 7–Project Management*, Idaho National Engineering and Environmental Laboratory, November 2000.

PRD-22, "Excavation and Surface Penetration," Revision 2, *Manual 14A–Safety and Health–Occupational Safety and Fire Protection*, Idaho National Engineering and Environmental Laboratory, September 1999.

PRD-2014, 2001, "Excavations and Surface Penetrations," Revision 6, *Subcontractor Requirements Manual*, Idaho National Engineering and Environmental Laboratory, June 2001.

PRD-183, 2000, "INEEL Radiological Control Manual," Revision 6, *Manual 15A–INEEL Radiological Control Manual*, Idaho National Engineering and Environmental Laboratory, July 2000.

PRD-310, 2003, "INEEL Transportation Safety Document (TSD)," Revision 1, *INEEL Transportation Safety Document*, Idaho National Engineering and Environmental Laboratory, June 2003.

STD-101, 2002, "Integrated Work Control Process," Revision 13, *Manual 6–Maintenance*, Idaho National Engineering and Environmental Laboratory, October 2002.

STD-7006, 1998, "Marking Methods for Equipment, Components, and Materials," Revision 5, *Manual 10A–Engineering and Research*, October 1998.

STD-7022, 1984, "Cleanliness Acceptance Levels for Nuclear or Non-Nuclear Service Components," Revision 0, Idaho National Engineering and Environmental Laboratory, June 1984.

Appendix G

Agency Comment Resolution Forms

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RA Work Plan

DATE: November 24, 2003 **REVIEWER:** DOE

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
GENERAL COMMENTS				
1			Change all references to Brokk 330D to Brokk.	Comment incorporated in part. All references to the Brokk 330D in the main body of the RD/RA work plan were changed to "Brokk". Referenced to the Brokk 330D in the work plan appendices remain unchanged.
2			Need to check all drawing, specifications and calculations, and get them signed and stamped, as appropriate.	Comment incorporated. The drawings, calculations, and EDFs for FINAL "Preparer, Check/Review, Signatures, and Stamps will be checked as required. Many of these checks have been completed, but hard copies of signatures and stamps were not included in design package documents.
3			Operations - Concern Expressed over the exposed PM2A Tanks personnel exposure hazard to those working around the excavation perimeter / walking by on Snake Avenue.	Comment noted. These calculations will be performed to determine potential personnel exposure from the exposed PM-2A Tanks to a worker on Snake Ave. Additional calculations will also be performed to show effects of personnel exposure reductions associated with 1/8" and ¼" lead sheeting over the waste containers during change-out operations.
4			The DOE reviewed the RD/RA work plan and provided three redlined hard-copies of the document.	The significant comments were discussed with DOE and are addressed below. Due to document revision time constraints, all other redlined comments were reviewed and incorporated as appropriate.
SPECIFIC COMMENTS				
1	Sec. 2.1	P. 2-1	Sections 2.1.1, 2.1.2, and 2.1.3 are not remedial action objectives, but rather work elements/activities that are already outlined in Section 6. Delete these sections and reference discussions in Section 6.	Comment incorporated. Sections 2.1.1, 2.1.2, and 2.1.3 have been deleted. The following sentence was added at the end of Section 2.1: "The specific remediation activities that will enable the project to meet these objectives are identified in Section 6.2." The RL/SO will not be indicated in the text, as it would make the document too difficult for Agency review.
2	Sec. 2.1	P. 2-1	Add a discussion of the objective and regulatory basis for the WRRTF-01 remedial action to Section 2.1, Remedial Action Objectives.	Comment incorporated. A discussion of the WRRTF-01 remedial action will be added to the end of Section 2.1, including language from the ESD to the ROD and the asbestos ARAR, which provide the basis for the action.
3	Section 2.2	p. 2-2	Change Technical and Functional Requirements "Title" to "Project Requirements"	Comment incorporated. The title of Section 2.2 has been changed to "Project Requirements".

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RA Work Plan

DATE: November 24, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
4	Sec. 2.2.3	P. 2-3	Add the ICDF WACs (four each) and MCP 2811, Design, to the list of INEEL requirements.	Comment incorporated. There are only three ICDF WACs. The WACs and MCP-2811 were added to the list.
5	Sec. 4.1.1	P. 4-2	5th bullet from bottom. Per recent discussions, the concrete cradles will not be sampled. Also, the soil samples will not be analyzed for RCRA constituents. If there is evidence of a release from the tanks, the soil beneath the tanks will be sampled in accordance with the HWMA/RCRA Closure Plan FSP.	Comment incorporated. The bullet has been revised to delete the reference to the concrete cradles. The phrase "and that the FRGs are protective with regard to any RCRA constituents of concern detected" has also been deleted.
6	4.2.1	P. 4-3	Add the assumption that the ICDF WAC will be revised to allow acceptance of the tank halves for disposal.	Comment incorporated as suggested.
7	Sec. 4.3.1	P. 4-6	5th bullet from top of page. Add a reference to the Decontamination Plan.	Comment incorporated as suggested. This bullet has been moved from Section 4.3.1 to Section 6.2.16. See the following comment.
8	Sec. 4.3	P. 4-5	The bulleted items in this section for each site are not design elements, but rather remedial action work elements. Move the contents of this entire section to Section 6.2 and delete Section 4.3.	Comment incorporated as suggested.
9	Sec. 4.3.1.3	P. 4-26	2nd bullet. Revise coating thickness to 1/16" per latest field determinations.	Comment incorporated as suggested.
10	Sec.4.3.1.3	P. 4-26	3rd bullet. Do not specify plasma arc torch – keep the cutting method generic.	Comment incorporated. "Plasma arc torch" has been deleted and replaced with "mechanical cutting method."
11	Sec.4.3.1.3	P. 4-27 / P. 4-28	After the bullets "Waste containers will be moved to CERCLA Waste Storage Area …", ADD bullet that states ***"… the ICDF will grout boxes to fill in voids."***	Comment incorporated. The following bullet was added: "*Waste containers will be shipped to the ICDF for disposal and the ICDF SSSTF will grout the waste boxes to fill the remaining void space prior to placement into the disposal cell*".

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RA Work Plan

DATE: November 24, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
12	Sec. 4.3.2	P. 4-30	1st paragraph. Add a statement that the pit waste has been shown to not be characteristic.	Comment incorporated. The first paragraph was replaced with the following: *"The TSF-03 Burn Pit is located in the northeast corner of the TSF, outside the facility fence, and was used from 1953 to 1958 for open burning of construction debris. The surface boundary dimensions are estimated to be a triangle shape that is approximately 205 ft long and 120 ft wide. It is covered with approximately 2 to 6 ft of clean soil. Sampling of the burn pit in 2000 and 2001 identified lead above the EPA Region IX screening level for lead of 400 mg/kg. While this concentration of lead triggered the removal of the burn pit waste, the analysis confirmed that the waste did not meet the definition of a RCRA hazardous waste. Therefore, the waste does not require treatment to meet RCRA Land Disposal Restrictions."*
13			This Comment moved to "General Comments Section" ... No. 3	
14	Sec. 4.4	P. 4-41	Add a statement to the front of equipment list section stating that this list represents the anticipated equipment and will be revised on a case-by-case basis, as necessary.	Comment incorporated as suggested.
15	Appendix D	Drawing D-2	Add a note to the drawing indicating that a portable decontamination unit is planned to be used.	Comment incorporated. The decontamination pad specified on drawing D-2 is a portable unit.
16	Appendix F	EDF-096-018	EDF-096-018 - Jib Crane. Per the Design Implementability Meetings, the Jib Crane is not needed [revised lid design does not require lid change-out therefore does not require Jib Crane].	Comment incorporated. This EDF will be deleted and references to it deleted from the RD/RAWP text. Applicable drawings showing the "Jib Crane" will also be revised to reflect no Jib Crane [Drawings M-11, M-12] and Drawing M-19, Jib Crane Details will not be required.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RA Work Plan

DATE: November 24, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
17	Appendix F	EDF-096-021	EDF-096-021 - Plasma Arc Cutting. Per the Design Implementability Meetings, this "Hot Cutting Method" will not be utilized due to radiological contamination control issues.	Comment incorporated. This EDF will be deleted and references to it deleted from the RD/RAWP text. References will be to "Mechanical Cutting Methods".
18	Specification 13124	P. 2	Under Subsection "Materials" 2nd bullet states; "designed to withstand at least 11 psi" should be deleted.	Comment noted. The origin of this pressure requirement will be verified. If this requirement is not specifically called out as applicable to DOT 7A Type A waste container design, then it will be removed.
19	Sec. 6.1.3	PP. 6-5 and 6-6	Table 6-1 (and Section 8, P. 8-1). An INEEL Site Wide Five Year Review Plan is being prepared for submittal to the Agencies for review before or during the summer of 2004. This plan will eliminate the need for submittal of a separate OU 1-10 Five Year Review Plan.	Comment incorporated. Table 6-1 has been revised to delete the OU 1-10 Five Year Review Plan and note e has been modified to reference the INEEL Site Wide Five Year Review Plan. Additionally, Section 8-1 has been revised to state "*Further requirements for conducting 5-year reviews will be addressed in a the INEEL site wide 5-year review plan. This site wide plan is expected to be submitted to the Agencies for review before or during the summer of 2004.*"

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: RD/RA WP for PM-2A Tanks/Burn Pits

DATE: November 21, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
GENERAL COMMENTS				
1			What will we use for wedging the tank halves after cutting. Do we have a tank wedge design? Do we need one?	Comment noted. Drawing M-4, Phase 4 indicates "Steel Wedges - 4 each" are to be used, with one steel wedge to be placed at each reinforcing rib. No design is necessary - any standard 6"steel wedge would be adequate.
2			Will a pressure relief valve on the vacuum system still be necessary even though we are removing the waste box bypass?	Comment noted. The waste box bypass was removed because the need to remove as much airborne contamination prior to lid change out as possible has been eliminated. The existing pressure relief valve PRV-101 (shown on Drawings M-1 and M-10) is still included and will be resized.
3			Does the tank spreader bar meet 3 to 1 on yield for a below the hook lifting device? From quickly reviewing the EDF it appears we may be lacking. There are also marking and load testing requirements that will need to be called out on the fabrication drawings per STD-1090.	Comment noted. This EDF will be revised to reflect the ASME appropriate design requirements and assure a design meeting the 3:1 safety factors on yield stress for Structural and Mechanical Lifting Devices. These safety factors can be achieved easily with an increase to next size up from the selected W 8x31 Spreader Beam and increasing the fillet weld sizes from 5/16" to 3/8".
4			Is it possible there could be any kind of radio interference with the Brokk from the CAM's, cameras, or hand held radios during the operation. Please investigate when you review the new Brokk design.	Comment noted. Radio interference should not be a problem considering the wide range of radio operating frequencies available. The CAMs should not be producing radio frequency interference during their operation. Radio interferences can be tested and problems resolved prior to the start of operations.
SPECIFIC COMMENTS				
1			Evaluate the need for a portable shielding stand/ design for the front of the DOT waste box during the hole cap installation process.	Comment incorporated. Additional radiation field evaluations will be performed and included in EDF 096-011. The evaluation would investigate the probable radiation fields present when using 1/8" and ¼"lead sheeting blankets. This evaluation may be used during the detailed work control planning and associated ALARA reviews.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: RD/RA WP for PM-2A Tanks/Burn Pits

DATE: November 21, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
2			Generate detailed fabrication drawings for the PM-2A tank cover and cart design as shown on drawing M-8. It has been decided that the tank cover and cart will be built in-house under a work order. The new drawing will need to have a new drawing number and will not go into the RD/RA Work Plan. Frank Rios has a redline markup of changes that will need to be incorporated.	Comment incorporated. A new Drawing F-1 (Fabrication), Tank Cover Fabrication, will be prepared to be used in conjunction with Drawing M-8, Tank Cover and Air Flow System.
3			Add a steel tank edge cover/ protector to true up the cut tank lip after cutting. As discussed, this will provide a smoother ride for the cart, and will prevent the tank sharp edge from contacting the tank cover. Also, after tank cutting if there is any spring out on the tank walls the cart wheels might fall off the edge of the tank at the mid point of the tank. The edge cover can be used to provide a true riding surface for the cart. The cart wheels might need to be adjustable also to accommodate this phenomenon. These details should be shown on the new M-8 drawing.	Comment incorporated. The original design calls out the use of neoprene wheels to accommodate the slightly rough edges of the tank. Edge protection will be added to protect the cover and wheels from being damaged by the sharp edges. The cart's wheels are designed to allow adjustments in or out of the wheels within their holding brackets to allow for tank wall deflections. These details will be shown on the tank cover fabrication drawings. No spring out of the tank walls is anticipated due to the 5/8" steel plate stiffness and the surrounding backfill materials providing inward compressive forces on the tank walls.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: RD/RA WP for PM-2A Tanks/Burn Pits

DATE: November 21, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
4			Evaluate the need for, and generate if necessary a tank half cradle design for transportation. The cradles will need to harness the tank halves on the transporter in an open side up configuration. This is the preferred method of receipt at ICDF. Again, this might be a tie-down evaluation only. Also, radcon does not want to flip the bottom tank half due to contamination potential.	Comment noted. EDF 096-012B, PM-2A Tank Transportation will be developed at a future date to address the ICDF waste acceptance and tank sizing, packaging, and transportation requirements to meet all P&T requirements for on site shipment of waste meeting SCO II Classification. This EDF will address the details of tank handling and sizing necessary for transportation and look at the possibility of placing the top tank half into the bottom tank half for transportation to the ICDF. This EDF will also address the use of a large steel/wood tank support system with the appropriate transportation trailer for movement of the PM-2A Tanks from TAN to the ICDF at INTEC. A cradle system would be preferred due to limited contact of inverted tank to transport trailer (tank opening facing up) and "rollover" potential.
5			Add a GAC filter on the vacuum system to trap any PCE's that might get into the air stream. Work with Todd Lewis to determine the height of stack necessary.	Comment noted. The need for a GAC filter will be evaluated at a future date when the 2003 tank contents sampling data is evaluated to determined the need for treatment of the V-14 Tank contents. This issue is not addressed in the Work Plan at this time.
6			Evaluate the integrity of the tank top half when lifting with single leg slings and hooks, as opposed to basketing a sling around the top half as shown in drawing M-5. For contamination reasons, it has been decided that it would be easier to simply install hooks on the lip of the tank ***if there is no integrity issues***, than trying feed a sling through the tank cut. Work with Randy MacDowall (H&R SME) to evaluate. A long nosed hook may need to be used for this pick.	Comment incorporated. The current design follows the INEEL Site standard application for hoisting and rigging of underground tanks, as it is not generally acceptable for tanks to have lifting devices welded to them because of the uncertainty associated with tanks' metal integrity. Thus, all underground tanks are typically removed / lifted using a synthetic web-sling to basket the tank. EDF 096-012 will be revised to include an evaluation of tank welded lifting devices to address the use of a large oversized backing plate that will be welded to the tank face and provide the support for the lifting device (similar to those shown in Detail 2 on Drawing M-6). Initial suggested size for the backing plate will be ½" thick x 1'0" wide x 2'0" long and will have a 6'3" radial bend/curve to match the tank exterior curvature. The use of these lifting devices will be shown on Drawings M-5 and M-6. The suggested "long nose hook" is not a standard lifting device and will not be used in this application.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: RD/RA WP for PM-2A Tanks/Burn Pits

DATE: November 21, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
7			Generate a design and evaluate the integrity of the tank for installing pick points on the bottom half of the tank. ***This is the preferred method for lifting the bottom half***. Work with Randy MacDowall (H&R SME) to evaluate.	Comment noted. See response to Comment #6 above.
8			Revise all drawings and specifications to remove the waste box lid bypass ventilation.	Comment incorporated.
9			Revise all drawings and specifications to reflect qualifying the waste box lid and leaving in place.	Comment incorporated.
10			Specification 15810 will be deleted. It is no longer needed because these are all off the shelf items and will be built in-house using a work order.	Comment not incorporated. Specification 15810, Ventilation and Tank Cover, is still needed to allow this item to be fabricated to meet the design requirements that meet safety and engineering standards [SMACNA, ASTM D1785, ASTM A653, ASTM A924, ASTM-446-91, Grade A and/or UBC 27-9NFPA 90A, etc., etc.]. Specification 15810 is an integral part of the current design and engineering documents
11			Design lifting points on the precast concrete walls and pads. Revise drawing D-4, and show them on DWG M-2.	Comment not incorporated. The current version of Drawing D-4, Equipment Pad Details, shows the concrete shield walls and slab-on-grade as being cast-in-place, not pre-cast. Drawing D-4, Revision E, shows the concrete shield walls as pre-cast; this version is not included in the design drawing documents. Due to weight considerations and reach limits of the even larger 240-ton hydraulic truck crane, it is not advisable to do this work as pre-cast. The additional 5'0" in length added to the concrete shield walls and slab-on-grade would be a simple operation if these were cast-in-place construction.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: RD/RA WP for PM-2A Tanks/Burn Pits

DATE: November 21, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
12			Evaluate the need for the sample manifold SP-103 and SP-1 sample ports in the vacuum system design. The sampling will now be done in the waste boxes after filling. There may not be a need for these ports. Work with Gary McDannel and revise drawings as necessary.	Comment noted. The need for these ports was evaluated, and it was determined that the sampling manifold was not needed. The drawings and specifications were changed to reflect this change.
13			Change the bottom tank cover supports from 2 x 4's to either 4 x 4's or a small I-Beam to provide more support. Also, evaluate the tank cover and supports for the increased flow (to be provided).	Comment noted. An EDF was provided that addresses the cover support requirements. The cover hold supports were modified to reflect the required loads.
14			Install lifting points on the tank cover cart. This will allow ease of installation with the crane onto the tank, and also provide a place for tag lines when an operator manually moves it down the track.	Comment incorporated. These details will be shown on the Drawing F-1, Tank Cover Fabrication. The lifting devised will be designed to be an integral part of the tank cover cart. Tag line attachment devices will also be designed to be an integral part of the tank cover cart.
15			Replace the stainless steel waste box adaptor with an integral, recessed adaptor (critical time path).	Comment incorporated.
16			Incorporate an integral bag attachment on the underside of the modified lid (critical time path).	Comment incorporated.
17			Replace both 6" bypass openings with 3/4" (or 2"?) passive HEPA inlets, with plug (critical time path).	Comment incorporated using 2" diameter openings to allow for a larger surface area, resulting in less pressure on the passive HEPA.
18			Add a 3" sample port, with plug (critical time path).	Comment incorporated.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: RD/RA WP for PM-2A Tanks/Burn Pits

DATE: November 21, 2003 **REVIEWER:** DOE

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
19			Extend pad and shielding 5' for blank and plug installation.	Comment incorporated. Drawings D-4, Revision D, Equipment Pad Details and Drawings M-2, Revision E, Site Layout Isometric and M-3, Revision D, Vacuum System Equipment Layout will be revised to reflect the 5'0" extension of the Shielding Walls and Slab-on-Grade.
20			Revise waste box change-out process to reflect current direction, add 'proposed' to process title.	Comment incorporated. Drawing M-10, Revision D, Knockdown Hopper Isometric, will have the proposed Waste Box Change-out Process revised to reflect previous detailed planning meeting discussions and resolutions and new integral lid design.
21			Change Brokk 330D to Brokk 250 and revise all related (such as tethered electrical, bangboard power requirements, reach and stability, hose guides, etc.).	Comment not incorporated. The availability of demolition companies that lease BROKK 330D units is currently being researched for use on this project.
22			Generalize the RD/RA WP, such as add caveats so were are not shoe-horned into only one way of doing things.	Comment incorporated. The Work Plan was reviewed to identify areas of the document that could be revised to be less prescriptive. Further details on implementation and operational planning will be included in the specific work planning documents.
23			Increase fan speed to achieve linear velocity of (50 fpm?, awaiting requirement) and recalculate pool cover can withstand new vacuum.	Comment not incorporated. There are no referenced requirements for 50 fpm. No changes will be made to the tank airflow system.
24			Collecting baghouse changeout instructions and inquire about just replacing the baghouse (and/or hopper).	Comment noted. Baghouse filter assembly changeout will only be required in the event of a catastrophic failure. Due to the extensive radiological contamination within the baghouse filter assembly unit, the relative difficulty in establishing radiological contamination control of the area, and previous RADCON experience with baghouse filter assemblies (TAN-616), an option to replace the entire baghouse filter assembly & hopper system should be considered in lieu of a baghouse filter assembly changeout procedure. Drawing M-10 will be modified to include an additional note concerning the baghouse filter assembly failure.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: RD/RA WP for PM-2A Tanks/Burn Pits

DATE: November 21, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
25			Adding additional DE through the three ports that have been drilled into the tanks, using the DE blower and an impact plate to improve dispersion.	Comment incorporated. DE would be added to the V-14 PM-2A Tank after the top of the tanks have been exposed during excavation operations. The excavation would only remove those soils necessary to expose the top of tank and the three (3 each) 4" diameter ports that were previously drilled into the tank during sampling operations in September 2003. This soil should provide some shielding for personnel, and additional temporary shielding (lead blankets) could be laid in place also. (Radiation Field during sampling operations was reported to be 180 mR at the top of the tank.) Drawing M-15, Revision D, DE System Feed Skid Isometric, will be modified to include a 3" product flex hose assembly (3" inside diameter stainless steel) with a dispersion conical plate hose end attachment at one end to allow for better distribution of the DE into the V-14 Tank interior. The dispersion conical plate hose end attachment would be removable to allow hose to be used / connected to the DE Cart as shown on Drawing M-16, Revision D, DE System Bin Vent Isometric. Details for a DE dispersion nozzle are also included on a new drawing.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RA Work Plan

DATE: November 25, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
1	Sec. 6, Table 6-1		There are many "planned start dates" and "planned completion dates" within table that are not correct per the schedule provided in Figure 6-1. Recommend that the dates be changed to accurately reflect the dates as identified.	Comment noted.
2	Sec. 6, Table 6-1		Notation f states "If sampling of the PM-2A Tanks contents must be treated prior to disposal at ICDF, this RA report will only address contents removal. Treatment, if required, will be address in the Group 2 RA report." I do not believe either of these statements are correct. While the original intent was not to treat, I believe this RD/RA Work Plan will be revised if treatment is required and therefore said treatment would be covered under this Group 3 RA report.	Comment incorporated. Notation "f" has been deleted from Table 6-1 and verbiage will be added to Section 3, Table 3-1 to address revision of the RD/RA work plan in the event that treatment is required.
3	Sec. 6.2, 2nd Sentence		Change to read, "…This section identifies the major activities that will be performed to complete the RAs…".	Comment noted. Section 6.2 has been revised to include the detailed remediation activities that were previously in Section 4.3.
4	Sec. 6.2.1, 1st Sentence		Change to read "…Temporary access-control fencing will be installed to restrict access into the work area…".	Comment incorporated.
5	Sec. 6.2.2, 3rd Sentence		Change to read "…Job Safety Analysis, radiological work permits,…".	Comment incorporated.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RA Work Plan

DATE: November 25, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
6	Sec. 6.2.2, 3rd Sentence	6-7	Change to read, "Start-up authority will be granted by Nuclear Facility Manager approval". And Delete the last sentence.	Comment incorporated.
7	Sec. 6.2.5, 1st Sentence		Change to read, "Construction operations will be confined to areas that require remediation or to areas that are required to support remediation."	Comment incorporated.
8	Sec. 6.2.5, 2nd Sentence		Change to read "Any areas outside the designated areas that are damaged or disturbed will be repaired and reseeded in accordance with this plan."	Comment incorporated.
9	Sec. 6.2.10, 2nd Para., 2nd Sentence		Delete entire sentence.	Comment incorporated.
10	Sec. 6.2.10, 3rd Para., Last Sentence		Delete entire sentence.	Comment incorporated.
11	Sec. 6.2.11, 1st Sentence		Add "sites" after TSF-03.	Comment incorporated.
12	Sec. 6.2.15, Entire Para.		Delete "the subcontractor will mobilize from each site" and combine the next sentence with the first.	Comment noted. The paragraph has been revised to incorporate comments from other reviewers.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RA Work Plan

DATE: November 25, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
13	Sec. 6.5.2		Add the following sentence (probably at the end of the paragraph): "Also, additional characterization will be performed on Tank V-14 contents after removal to support a determination on whether or not said material requires treatment prior to disposal. The existing FSP used for tank contents sampling will be revised and submitted for approval."	Comment incorporated.
14	Sec. 6.5.8, 2nd Sentence		Change to read "...and facilitates preparation of project specific HASP and work authorization documents...".	Comment incorporated.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RA Work Plan

DATE: November 25, 2003 **REVIEWER:** DOE

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
15	Sequencing Sketches		While only sketches, the information portrayed on pages 4-7 thru 4-25 should accurately reflect the details provided in the drawings located in Appendix C. Examples include: • The Brokk 330D is now a Brokk 250, • The Brokk will not deploy decontamination equipment (4-18) • Is the vacuum hose 5" or 6" (See 4-15 and 4-18), • The Guard Shack does not exist • There are no drawings that include a "NEW Double 12" wide gate" near the office trailer pad • The excavation slopes on the excavation limits are 1:1, not 1.5:1 and 1:1 per 4-8 Etc.	Sequencing Drawings are not being changed at this time: - BROKK 330D is being left on Sequencing Drawings and will not be changed at this time - Stage 11 (4-18) will be revised to be consistent with Stage 12 (4-19) - Stage 8 (5 inch hose) / Stage 11 (6 inch hose) / Stage 12 (5 inch hose) … Stage 11 to be revised to reflect 5 inch hose - The Guard Shack will not be removed at this time - The NEW Double 12'0" Wide Gate will not be removed … Access is required from both sides - Initial PM2A Cut Sketch will not be revised at this time … 1:1 and 1:5 slopes shown for Information Only

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RA Work Plan

DATE: November 25, 2003 **REVIEWER: DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RAWP

DATE: 11/14/03 **REVIEWER:** EPA

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
SPECIFIC COMMENTS				
1	Sect 2.1.2	P. 2-2, 2nd bullet	P. 2-2 Sect 2.1.2, 2nd bullet. This bullet discusses cleanup to residual contamination being less than 1X10-4. My understanding is that the reference to a cumulative risk for this site was to be 10-4. Please revise.	Comment incorporated. This bullet has been deleted due to revisions to Section 2. However, all references to the cumulative risk from residual contamination at TSF-03 will state that the acceptable range is 10^{-4} for unrestricted use.
2	Response to Comment 21		It is difficult to read Table 6.1. When is the revised O&M Plan due	Comment noted. The revision to the O&M Plan was not included in the Figure 1 schedule or the Table 6.1 deliverable schedule since it addresses more than just Group 3 sites. Also, preparation is starting on an INEEL Sitewide O&M Plan that will ultimately supercede and replace the WAG and OU specific plans. Submittal of the Sitewide O&M Plan is planned for June or July of 2004. For efficiency, necessary changes to the OU 1-10 O&M Plan will be identified and included in the sitewide plan.
3	Response to Comment 26		It is my recollection that after discussing this comment the HASP was not to be place for the spill response plan and in fact it was to be included in this document.	Comment noted. The response to Comment 26, as provided to the Agencies, is correct. No Spill Response Plan is required; this information is included in the HASP Contingency Plan and is further covered by the ***TAN Emergency Response Plan***. The Group 3 HASP has been supplied for reference.
4	Response to Comment 52		If the vegetation is already removed then why it is a requirement in the Earthworks Section, page 3 of 5 lines 17-20?	Comment noted. The original response to EPA Comment 52 will be revised to state: "Any vegetation removed will be stockpiled and disposed along with the contaminated soils."
5	Response to Comment 63		I am not able to find the culvert on drawing M-7.	Comment noted. The original response to EPA Comment 63 will be revised to reference drawing C-7, not drawing M-7.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RAWP

DATE: 11/14/03 **REVIEWER:** EPA

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
6	Response to Comment 67		While I found specifications for stormwater control, I did not find specs for dust control. Were they added?	There is not a specific specification for Dust Control … the information related to "Dust Control" is found under Specification 02140, TEMPORARY DIVERSION AND CONTROL OF WATER DURING CONSTRUCTION, page 2 of 3, Part 3, Execution, General, Subpart g, which states specifically … "*The Subcontractor will at all times minimize the creation and emission of dust. The subcontractor will employ means such as water spray and visual observation to control and minimize dust. The source of water for dust suppression will be the TAN fire water system. The Subcontractor shall supply appropriate equipment for water delivery, storage, and application.*" There is also reference in the EARTHWORK specification for dust control on page 3 of 5, subsection Water, lines 11-12.
7	Appendix D		Sheet G-1 notes that a drawing D-1, decon pad details is included. I could not find this sheet.	Comment noted. Drawing D-1 was included in the Draft Final submittal of the RD/RA WP. The Final submittal will be reviewed to ensure that this drawing is included.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RAWP

DATE: 11/14/03 **REVIEWER:** EPA

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
8	Response to Comment 73		I can't find where the response is included in the revised Work Plan.	Comment noted. The values used from the reference materials included with the Engineering Design Files, Appendix F, have been "**bolded"** and again repeated in the EDF Summary and Conclusion Section on the front page. For example: • EDF 096-002, TSF-26 Waste Stream Quantities Calculations – The quantities listed in the "Summary of Conclusions" section on the front page are bolded and underlined in the "Estimated Volume" column in the supporting calculations on the following pages. Note that the MLLW Debris value of 393 cf is the sum of 39 cf for the empty piping and 354 cf for the decontamination debris. • EDF 096-003, TSF-26 Crane Lifting Calculations – The quantities listed in the "Summary of Conclusions" section on the front page are bolded in the supporting calculations on the following pages. The exception is the RUBB Special – Weight value of 4,500 lbs. This value (not bolded) is found on the first page of the supporting calculations under "Weight Calculations for RUBB Special Shelter." The bolded value below it includes the added weight associated with the lifting system. Additionally, many of the referenced materials are ***"colored"*** and should reveal those values utilized quite readily to the reviewer, provided that this material is printed in color.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: RD/RA WP for PM-2A Tanks

DATE: 11-17-03 **REVIEWER:** DOE

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
GENERAL COMMENTS				
1	All Specifications		The INEEL will witness vendor testing at our discretion. Review all specifications that require the INEEL to witness testing and change to read, "the INEEL may witness testing as determined necessary".	All specifications were reviewed and modified.
SPECIFIC COMMENTS				
1	DWG M-2		Please correct the enclosure dimensions in note 1. The dimensions should be 65' x 26' x 16' as shown in DWG M-7.	Note 1 has been corrected in Rev E.
2	DWG M-3		Dimension in Detail 1 should be 12 inches.	Detail 1 has been corrected in Rev E.
3	DWG M-14		Add word weldment on sec A. Add words "blank plate", on cap, sec A. Add note that gasket material should match lid material. Add words "lifting points" on lid. The lid lifting points should be stenciled "lid lift only". Add word "nominal" to lid dimensions. Show section A on detail 2.	Comments incorporated in Rev E.
4	SPC 13800		This specification for the weather enclosure is not needed. The weather enclosure is a catalog item and will be ordered as such. A reference should be added in the general summary of work specification listing the weather enclosure.	The specification has been removed from the RD/RA WP. A reference has been added to the summary of work Rev E.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: RD/RA WP for PM-2A Tanks

DATE: 11-17-03 **REVIEWER:** DOE

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
5	SPC 13124		Remove references "to provide tech support for use of boxes". Remove references to use DOE Hoisting and Rigging Standard. This is not required. Clarify what parts of PLN-120 should be followed. Removed references to installation. The boxes will not be installed by as part of this spec.	Comments incorporated: The changes are reflected in rev E of the spec.
6	SPC 13121		Remove references to installation. The INEEL crafts will be installing the system. Remove references to DOE Hoisting and Rigging standard. This is not required. Add wording " or approved equal" to MultiVac References.	Comments incorporated.
7	SPC 13400	2	Line 32; change the relative humidity requirement to 20 – 100% as given in the TFR-234.	Comment incorporated.
8	SPC 15404		Modify the wording that requires the INEEL to witnessing all tests such as pipe flushing. The INEEL will witness at our own discretion.	Comment incorporated.
9	SPC 15883		Remove references to subcontractor supplying labor.	Comment incorporated.
10	DWG M-1		Show the weather enclosure over the hopper. Show a ventilation system for the hopper.	Comment incorporated. Added FL-105, F-102 and SP-108.
11	DWG E-1		Modify the power requirements to reflect the need for 480 v, 60A, 3 phase.	Comment incorporated in rev F.

INEEL
Idaho National Engineering & Environmental Laboratory

PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: OU 1-10 Group 3 RD/RAWP

DATE: 11/14/03 **REVIEWER:** IDEQ

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
SPECIFIC COMMENTS				
1	Sect 4.3.2	P. 4-15	Figure 4-2. The north arrow is missing on the first figure of the 4-2 figure series.	Comment noted. A north arrow will be added to the figure.